

## **IN THE CLAIMS**

1. (currently amended) A method for making a hypermutable cell, comprising the step of: introducing into a plant cell a polynucleotide comprising a dominant negative allele of a mammalian *PMS2* mismatch repair gene, wherein said dominant negative allele comprises a truncation mutation, and whereby the cell becomes hypermutable.

2. (original) The method of claim 1 wherein the polynucleotide is introduced by transfection of a suspension of plant cells *in vitro*.

3-4. (canceled)

5. (previously presented) The method of claim 1 wherein the mismatch repair gene is a human *PMS2*.

6-15. (canceled)

16. (previously presented) The method of claim 5 wherein the allele comprises a truncation mutation at codon 134.

17. (currently amended) The method of claim ~~15~~ 1 wherein said allele is a human *PMS2*, and wherein the truncation is due to a thymidine at nucleotide 424 of wild-type human *PMS2*.

18. (previously presented) The method of claim 1 wherein the polynucleotide is introduced into a plant cell of a plant seedling.

19. (previously presented) The method of claim 18 further comprising: growing said plant seedling into a mature plant.

20. (previously presented) The method of claim 19 wherein the mismatch repair gene is human *PMS2*.

21-30. (canceled)

31. (original) The method of claim 20 wherein the allele comprises a truncation mutation.

32. (original) The method of claim 20 wherein the allele comprises a truncation mutation at codon 134.

33. (previously presented) The method of claim 20 wherein said human *PMS2* comprises a truncation due to a thymidine at nucleotide 424 of wild-type human *PMS2*.

34. (currently amended) A homogeneous composition of cultured, hypermutable, plant cells which comprise a dominant negative allele of a mammalian *PMS2* mismatch repair gene, wherein said dominant negative allele comprises a truncation mutation.

35. (previously presented) The homogeneous composition of claim 34 wherein the mismatch repair gene is a human *PMS2*.

36-45. (canceled)

46. (previously presented) The homogeneous composition of claim 34 wherein the cells express a protein consisting of the first 133 amino acids of human *PMS2*.

47. (currently amended) A hypermutable transgenic plant wherein at least 50% of the cells of the plant comprise a dominant negative allele of a mammalian *PMS2* mismatch repair gene, wherein said dominant negative allele comprises a truncation mutation.

48-55. (canceled)

56. (previously presented) The hypermutable transgenic plant of claim 47 wherein said dominant negative allele encodes the first 133 amino acids of human *PMS2*.

57-76. (canceled)

77. (previously presented) A hypermutable transgenic plant made by the method of claim 19.

78. (canceled)

79. (original) The hypermutable transgenic plant of claim 77 wherein the mismatch repair gene is human *PMS2*.

80-82. (canceled)

83. (original) The hypermutable transgenic plant of claim 77 wherein the allele comprises a truncation mutation.

84. (previously presented) The hypermutable transgenic plant of claim 79 wherein the allele comprises a truncation mutation at codon 134.

85. (previously presented) The hypermutable transgenic plant of claim 79 wherein said human *PMS2* comprises a truncation due to a thymidine at nucleotide 424 of wild-type human *PMS2*.

86-125. (canceled)